Lanscapes of energies

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"Landscapes of energies"

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Now that the curtain is falling on the era of cheap oil we are reminded once again of the vital role of energy for our existence. Even God appears to have understood the key role of energy, for according to the bible, upon creating the heavens and the earth, God's second act of creation was to switch the light on (Genesis 1:1-3), providing a vital energy service in advance of anticipated future demand[1]. The value of energy is of course recognised well beyond the realms of science and religion. Shifts in patterns of energy generation, control and use are very closely linked to power relations, including conquest and submission, expressed in ideology, enacted in governance and embedded in national, collective and individual identities. Lenin equated communism with electrification; Franco -and many a dictatorial regime since- sought to symbolise the virtue of his regime through the development of hydropower. The restoration of national pride and political independence of post-war France was expressed through nuclear power. The big car economy lies at the heart of the American dream and national identity – something that Hitler was perhaps hoping to emulate with his support for the Autobahn and Volkswagen. In short, the use of energy in human society, expressed by the practices through which it is harnessed, transported and consumed, has always played a key role in the structuring of identities, territories and landscapes.

Renewable energy, once the only source of energy available to humans, is currently undergoing a renaissance. The international Kyoto process and the work of the Inter-governmental Panel on Climate Change (IPCC) have progressively presented the evidence of global warming as the future and most urgent challenge for humanity. National and supra-national energy policies are at the core of the strategies developed in order to face it. Officially driven by a range of objectives, such as the security of the energy supply, environmental concerns, the development of export technologies or rural development, state support for renewable energies has been greatly increased in most developed countries and many developing countries too. The growing agreement in favour of a global development of alternative energies has been further strengthened by changes in political leadership, most notably and recently in the United States. Technological innovation in fields such as solar energy, biomass production and especially wind energy are now invoked as being part of the solutions to the current economic depression. While

[1] This is clearly a supply-side measure of energy management and possibly the oldest example of the 'predict and provide' model for the provision of public services.

India, Russia or China are jumping on this bandwagon, some European countries already have a strong history of alternative energies, especially wind energy[2].

The ongoing changes in the energy mix trigger a new interest in the landscape-energy relationship. Renewable energy is widely and unevenly dispersed across the land and the extent to which it can be harnessed is to an important extent dependent on specific physical landscape characteristics that may be much more prevalent in some areas than in others. Their spatial impacts and decentralized energy infra-structures, can be significant and highly perceptible. They provide us with new visual reminders that our energy comes from somewhere, which contributes in raising consciousness about the impacts and consequences of our energy demand (Pasqualetti, 2000). In turn, this spatial impact can be regarded as the re-composition of socio-technical links between landscape and energy. Landscape has become a key arena for the debate on energy policy, challenging new policy schemes to open up decision processes and integrate a new dimension into energy policies. The reverse is also true. Energy issues might bring new dimensions into landscape policies and processes as landscapes undergo tremendous mutations under the expected transition to low carbon energy, economy and society. The industrial revolution, fuelled by coal, oil and gas has resulted in a level of landscape change that is – in both its nature and magnitude- unprecedented in the history of humankind. There can be very little doubt that energy will remain the number one driver for landscape transformation in 21st century, directly with regard to energy extraction, transporation and use, as well as indirectly through the emission of greenhouse gasses causing climate change.

The papers gathered in this special issue were first presented at a workshop sponsored by the European Science Foundation (ESF). Titled "*Emerging Energies, Emerging Landscapes: Revisioning the Past, Constructing the Future*" (Paris, June 2007), the workshop's aim was to explore the relationship between landscape and renewable energy technologies. It was designed to encourage a cross-fertilisation between policy-oriented research on the development of renewable energy and more theoretical or experiential research strands on landscape. It brought together geographers, planners, political scientists, architects, anthropologists, sociologists and landscape ecologists (25 participants) from 9 different European countries, the US and Australia. The 5 papers selected for this Special Issue all explore the evolving relationship between landscape and energy, albeit from different angles. They capture, together, some of the richness of this emerging research field.

Opportunities for field research; emerging research field

The evolving relationship between landscape and energy can offer an (at times) unprecedented field for observing landscape processes, developing evidence-based case studies and expanding our knowledge about the processes by which our landscapes become what they are. There is much work to do in identifying, describing and interpreting this relationship. Wind, solar, biomass, geothermal and marine energies make up a range of existing options, which though already wide, is likely to expand in the future. "*Landscapes of energies*" are thus an important emerging field of research. Because this field is still emerging and coalescing, however, we cannot properly reflect on the energy transition and its relation to landscape processes if we solely rely on the tools, theories and concepts that are currently available to us.

The transformation from fossil fuels to (more) renewable sources of energy, just by the mere fact that they are more decentralized, brings new patterns into the picture: new powers, new connections and new relations. The grand, national energy visions mentioned in our first paragraph are not easily achieved through decentralised energy and landscape governance. At the least, the widespread adoption and utilisation of renewable energy will require another vision and another practice of political unification. If this is true, then we might learn about both landscape policy and energy policy by working at the crossroad of landscape and energy. Two basic questions come to mind when considering "landscapes of energies" as an emerging research field: What could we gain by looking at landscapes through energy? And what would we gain by looking at energy through landscapes?

[2] In the European Union, for instance, major steps have been taken since the 1996 Green Paper on energy (European Commission, 1996). They have lead to the adoption of voluntary (European Commission, 2001) and mandatory targets as regards the share of electricity (Council of the European Union, 2007) and of energy that should come from renewable sources in the near future. The most recent step in this process has been the proposal of the Commission setting national targets for the share of energy coming from renewable sources in member States' final energy consumption at the horizon of 2020 (European Commission, 2008).

Looking at landscapes through the 'energy lens'

Energies are power for action. They are resources for human activities. New energies bring new practices. They attract and generate investments. They are the source of unprecedented transformations of landscape and society. They draw attention and uses to landscapes that were not coveted before. Innovations in the sourcing and use of energy ('development' or 'exploitation, depending on your political point of view) lead to the formation of new landscapes and to the re-visiting of existing ones through the energy "lens". For instance, birdwatchers are currently learning a lot about birds and bats from wind power development. Never had they benefited from such economic means to undertake surveys. Never had they been called for to undertake surveys in parts of the territory that were not suspected to be major bird areas. The energy "lens" takes birdwatchers to new places where they can complete the geographical mapping of animal presence, to places where they discover unknown bird habits, if not unknown species. Yet, there is more than this to it. Looking at birds "through wind power" entices birdwatchers to shift their viewpoint, focus on the uses birds make of the wind in given sites and understand birds strategies *vis a vis* the turbines in these sites. Birds become part of a new landscape in the making. Landscape becomes animated by a renewed bird presence. It is a landscape that revolves around wind. It is about sharing the wind; it is *relational*. It is also *political* as procedures and institutions have to open up and adapt in order to account for this presence and reflect on how much we care for it. The rise of offshore wind power and marine energies might as well cast new perspectives on marine fauna and "seascapes". It might provide unprecedented means to represent them and account for them into our institutions (Gee K., In Press).

Energies are pervasive. They are also diverse and multiform in their representations. These can be visible, like infrastructures for energy production or distribution. They connect regions and actors together in a growing web of mutual dependencies and multinational corporate power – as is the case with the trans-European energy grid. Yet energies can be immaterial or fluid like wind and water. They can be invested or embodied in landscapes when they have been consumed in order to shape, to build or to maintain landscapes. In such cases, energies have become part of the landscape. They underlay the mechanical work and the trophic processes which endow landscapes with their current materiality. They are part of landscapes as a quality but they require measures, codes, norms and conventions to become perceptible.

Visible or not, energies will be accounted for in the age of sustainable development. New representations, new aesthetics and new ways of accounting for them should thus emerge. They might be very different from the prevailing visual framing through which our modern western landscape culture has accustomed us to perceive landscape. These representations will echo what we do and where we go with our landscapes on top / in place of what we see. In other words, *energies, by being what they are, call for a renewed attention to the practices and processes which underlie the making of landscapes*.

By virtue of its object (landscape), this disciplinary field has reached a certain maturity in struggling with the complex relations between formal / symbolic / pictorial representations on the one hand and materiality / practices / processes on the other hand. The field traces back to various traditions in the US and the UK (Sauer 1963, Hoskins 1985 [1954]; Jackson 1997 [1960]), all engaged with the physical description of actual landscapes, but also, to differing degrees, with their cultural and symbolic dimension (especially in Jackson's case). These traditions of "physical landscape" offered the basis against which new approaches to landscape have later on developed and defined themselves, albeit in very different directions. From the mid 1980's to the mid 1990's, so called "visual" approaches to landscape emerged as part of a cultural turn in human geography. Landscape was conceived as a way of seeing and representing the world. It was assimilated into the art of producing and transmitting meaning through visual representations. In a rather structuralist perspective, these approaches focused on visual or symbolic representations as expressions of cultural, political and economic power (e.g. Cosgrove, 1998 [1984]; Cosgrove and Daniel 1988; Duncan and Duncan, 1988). They conceived *landscape per se as a visual representation* (which could be a park or a pictorial image) endowed with an ideological function and a cultural meaning, which was to be understood and uncovered. Since the 1990's, a "newer" cultural geography has criticised and somewhat expanded this strand by developing a post-structural perspective. Landscape became part of *multifaceted cultural processes* as both a representation *and a materiality* through which the social, political, cultural and environmental relations enacted through and within landscape could be reintroduced in the analysis. Anthropological works on landscape as a cultural process are part of this strand (Hirsch et al. 1995). So is also Kenneth Olwig's work on the "substantive" landscape, tracing the pre-renaissance Northern Europe landscape back to a myriad local polities and places (Olwig, 1996; 2002) later on unified, with the rise of the Nation State, in an ideological and visual representation (the scenery). Such a perspective allows the analyst to capture the current tensive relations between the bottom-up construction of a European landscape through the practice of "Convention" (the

European Landscape Convention) (a type of polity) and the top-down territorial/ landscape planning by the states (based on regulations and scenery-type representations) (Olwig, 2005, 2007). The representational approach to landscape has also been challenged by recent works derived from "*hybrid geographies*" (e.g. Whatmore, 2002)[3]. The ensuing shift from topo-*graphical* to topo-*logical* approaches (Thrift; 2000, 2004) emphasizes the process of construction of space / landscape. It challenges the weight of space / landscape representations over human agency by focusing on the process of construction of space / landscape through social relations networks, practices, connective properties, dynamic flows and vital forces making landscape become what it is (Lorimer H., 2005; Rose, 2002). Such topological approaches have recently been questioned for their tendency to overlook basic dimensions of our perception (and experience) of landscape, such as shadows, depth, colours, relief or contours, because these dimensions were considered as being exclusively representational. "Animating landscape" (Rose & Wylie, 2006), that is to say overcoming the split between experience and representation, is a current issue in the field. It calls for the development of *non representational approaches which could account for the emergence and the role of representations in the making of landscape.* The energy/landscape crossroad may very well help us work this through by offering an unprecedented lens for observing unprecedented landscape processes. To put it differently: the reordering of our priorities through that of energy sources, is bringing a new angle to the questions what makes landscapes and what landscapes are made for. It is an occasion to revisit the relevance of the ways and tools we have at hand to approach landscapes.

While energies might "add" to landscape approaches, the reverse is also true: approaching energy through landscapes might "add" to our understanding of energies and energy policies.

Looking at energies through the 'landscape lens'

The recent development of a global agenda towards a low carbon future has induced an unprecedented development in renewable energy and renewable energy policies. Until the early 1990s, few countries had enacted policies to promote renewable energy. By early 2009, at least 73 countries had adopted policy targets (REN21, 2009).

The management of the energy transition has recently been theorised in a broad analytical field inspired by new institutionalism, evolutionary economics and strategic niche management (e.g. Geels and Schott, 2007; Smith et al. 2005). "Transition management" points at the different institutional levels involved in the energy transition and at the role of non-state actors in the formulation and implementation of public policy. While renewable energy policies have still mostly been analysed by paying attention to their economic dimension, that is to say to the policy instruments which underlay these policies (such as feed-in tariffs and tradable certificates)[4], theorists from different inspirations (e.g. ecological modernisation and new institutionalism, communicative governance and institutional capacity-building, political science and the new energy policy paradigm) increasingly point at the benefits from involving various sections of society in policy development. The capacity of institutions to learn from this involvement becomes a key factor for policy success.

Looking at the energy transition through the lens of landscape might contribute in pushing this agenda farther and deepen the analysis of renewable energy policies. Landscape is a material, dynamic and social process embedded into the local realm. As such, it might help us to understand the role of *heterogeneity* in the energy transition and enrich the homogenizing economic thinking which prevails to the analysis and the construction renewable energy policies.

Landscape as notion, phenomenon and materiality is a located and situated reality. This contrasts with a recurrent tendency to centralise and industrialise energies, by and for the virtues of economies of scale or free market, so as to make them "Energy", a homogenous commodity that is more easily traded and transferred. The current rise of industrial wind power is illustrative of this. It is nowadays backed up by a global industry producing turbines which have grown in size and capacity so as to match the prevailing pattern of large scale plants producing hundreds or thousands of megawatts of electricity. In such a context, landscape raises a situated point of view which helps us grasp the way in which technologies and energies, although linked to the European grid, are still embedded into territories and local communities. The notion of "embedded energies" is illustrative of this.

[3] "*Hybrid geographies*" emphasize the blurring of the nature-culture divide because of the development new (bio-) technologies. It subsequently pushes a symmetric agenda questioning the naturalness of space.

[4] "Feed in" tariffs are fixed price for renewable electricity that are imposed by the governments on to grid manager. Tradable certificates are certificates equivalent to a fixed quantity of renewable electricity that energy producer have either to actually deliver or to replace by the equivalent amount of certificates (that they have to buy on a RE certificate market).

The notion of "embedded energies" has been brought into the energy debate through the landscape "lens": it comes into consideration when we try to represent all the energies and greenhouse gas emissions which are *related to a given landscape*. It casts a new view on landscapes as it converts - for instance - an orchard hedge or even the soil on which it grows, into gallons of oil and tons of CO2. Yet, it is not only a distant representation of its objects. The notion of "embodied energy" is also "performing" our landscapes in the sense that it will guide us in thinking and shaping what we might consider as acceptable landscapes in the future[5]. What is even more interesting is that the reciprocal is also true and this is why landscape *adds* to the energy "lens". Norms and conventions such as rules for energy or C02 accounting are brought to test when they are applied to landscape, because the processes and practices of producing landscapes are embedded into the materiality, the local culture, the local history and so on. In turn, the universality of these norms and conventions, their validity as compasses for global energy accounting or sustainable development, are brought into existence by being applied to landscape. They are somewhat brought back to the very condition of their emergence, that of existential and situated statements: statements whose verisimilitude relies on the local conditions of their (re-) production. The same applies to energy policies.

The incentives such as "fixed tariffs" or "green certificates", which are set in place for fostering the development of new energies, generally do not account for landscapes. Most of the assumptions and the (mathematical) economic models underlying the design of energy policies rely on the implicit assumption of an isotropic space, except for energy gradients (e.g. solar power, wind speed, tidal currents …). Landscape, by the virtue of its heterogeneity, is resisting the universality of these views. It introduces heterogeneity and uncertainty in the deployment of renewable energies. By distorting the blanket approach of prescribed incentives, landscape becomes part of the way in which these incentives perform the real world and shape energy policies. This very much echoes a current agenda in energy policy analysis, whereby such policies should open up to civil society in both their design and implementation phases, if they want to overcome the so-called "implementation gap" of traditional top-down centralized energy policies (Szarka, 2006; Shove, 1998). The European landscape convention is an exemplar of a trend towards the opening up of governance patterns, which landscape is carrying forward: it puts emphasis on proximity/daily landscapes and refers to the Aarhus convention for informing and involving the public (Déjeant-Pons M., 2006). The potential of this convention to foster a new (and "just") type of governance for the European landscape, notably based on convention, is a current issue (Olwig, 2005 & 2007; Olwig and Mitchell, 2007).

Landscapes also have a material dimension, and thus the potential to make energy more visible and legible. Looking at energies through landscapes is a way of revisiting energies, as it also is through the materiality of landscape that energies become multiform, connected and related. The rise of biomass, for instance, cannot be understood without taking into account the materiality of farmers' practices in the landscape and its relation to the ecology of biomass plants. This is illustrated by the uncertainties raised by Miscanthus, a rhizomatic 'energy crop.' in the Yorkshire region in the United Kingdom. Miscanthus is close to coal in terms of combustion, to the potato in terms of planting and to sugar cane in terms of biomass harvesting, but it has no precedent when it comes to its compatibility with various forms of farmers' long term investments, such as their drainage pipes or their identity as food growers. As a result, the ecology of the plant becomes uncertain in Yorkshire landscape practices. Getting biomass transformed into energy, when achieved through Miscanthus in the Yorkshire landscape, becomes in itself something of a "rhizomatic" process[6]. It is a process made up non-hierarchical relations, by which the tiny ecology of the plant addresses the way in which the overall UK energy policy framework deals with farmers' uncertainties in the long term.

Last but not least, landscapes are dynamic and energies undergo multiple translations in time when approached through the landscape lens. In Northern Germany, for example, the historical construction and maintenance of polder landscapes fostered a local culture which endorsed innovation as a survival strategy in the face of the ever-present threats posed by the "natural" elements. An ordered, productive landscape was crafted out of the ever changing mosaic of salt marches and mudflats that were at the mercy of the sea twice a day. It was built against the wind, an untamed energy regularly destroying dikes over centuries. The rise of wind power is embedded in this local culture. It provided (harnessed) wind with new assemblies, networks and politics that could not be understood if landscapes, as an ever changing practice, had not been included in the picture. It is through landscape that climate policy and energy policy are entering realistic politics.

[5] For a discussion on the notion of performativity see Callon (2007).
[6] Alluding to the deleuzian definition of "rhizome" (Deleuze G, Guattari F, 1980).

Working at the crossroad of landcapes and energies

Landscape studies have developed as a disciplinary field. Energy is neither a definite technology nor a discipline as such. Some types of landscapes of energy have already attracted analytical interest, such as hydropower landscapes (e.g. Mitchell, 2007; Owen, 2006; Ureña & Ollero 2001) or power transmission lines landscapes (e.g. Navrud, 2008). Some types of existing landscapes have also raised issues that are close to the ones raised by current renewable energy landscapes such as the tension between protection and development (e.g. Janssen, 2008) or the role of public participation in planning and development processes (e.g. Collier & Scott, 2008 ; Jones, 2007).

It cannot be ruled out that landscapes of energies establish themselves in time as an explicit category or that the crossroads of landscape and energy develop into a new subdiscipline, characterised by specific analytical tools and generating specific outcomes. These questions are not yet answered and do not have to be answered now. Interdisciplinary exploration of the issue is now the order of the day. The papers gathered in this issue can only explore some facets of the "landscapes of energies", but in so doing they underline the richness of the theme.

Themes and papers in this issue

The 5 papers selected for this special issue come from very different backgrounds and methodological approaches. In so doing, all papers deal with practices and representations, but representations in the making. They do so from very different perspectives, sometimes hybridizing landscape and energy analytical frameworks.

Paul Selman addresses a representational issue related to the energy transition and the emergence of landscapes of energies. His approach is anchored in the representational theories of landscape. Arguing that we "learn to love" our landscapes and relying on notions such as (landscape) "legibility" and (landscape) "drivers", he points to the historical uniqueness of the situation, due to the short time frame for cultural change in the case of the forthcoming energy transition. His paper opens up the landscape scope that is visible, ranging from wind power landscapes, to the everyday, less conspicuous landscapes that might also be altered by this transition. Selman addresses the question of the process by which new landscape representations might emerge that could help us appreciate the new landscapes of energies. In doing so, the paper bridges a gap between representational theories of landscape and analytical life-cycle / accounting approaches to energy/ greenhouse gas emissions. This opens up to consideration the underlying narrative of landscapes of energies – i.e. their positive contribution to the global environment - and alludes to the deliberative society as a way to agree upon and share this narrative.

Dan van der Horst & James Evans use a regional case study to explore a set of core questions regarding the energy transition and its relation to landscapes. Through the example of a Yorkshire landscape long dominated by coal and recently, and tentatively taking the first steps of conversion to biomass, the authors examine the ways in which biomass is framed within the carbon debate, interrogating the trade-offs and conflicts surrounding the production of a dedicated and subsidised energy crops: Miscanthus. The authors draw upon political ecology which has developed from a basis in a neo-Marxist framework. They approach Yorkshire landscapes through farmers' practices. They point to uncertainties in the ecology of this rhizomatic plant, when cultivated in the Yorkshire farming landscape, and at the consequence of these uncertainties on energy transition. Their analysis follows the crop through the structural sequence of lifecycle analysis (i.e. production, transport, conversion to energy, waste disposal), which allows them to discuss some of the difficulties involved with applying the language of carbon cycling to biomass so as to classify it as "renewable". This covers dynamic issues such as the interpretation of time scales and counterfactual uncertainties, ultimately pointing at underlying real-world lock-in and path-dependency. As the authors state it, it is unrealistic to consider the carbon argument of a given energy in isolation to other factors that drive the development of this energy. 'Systems boundaries' that scientists draw around their lifecycle analysis present an explicit social framing. They are policy-dependent. Alternative options explored for the different materials, the land on which they grow, or for the fuels which they are supposed to displace, are dependent on future policies, whilst policies that decide on these underlying scenarios are likely to be much more short term than their productive implications. In other words, carbon-accounting might back a definition of a "sustainable landscape" but it cannot decide on it as it is ultimately cast in the ray of power. It is one underlying narrative for such a landscape. As with other narratives, it should be assembled in order to be validated.

Werner Krauss develops a case study about the emergence of wind power and wind power landscape in Northern Germany. His analysis also relies on political ecology, but in a different manner. Krauss's

approach is ethnographic. It is inspired by Actor Network Theory and emphasizes the construction of nature. Political ecology endorses the meaning of a "politics of things" as advocated by Latour in the original Latin sense of *Res*, or the German *Ding*. It always concerns something / some 'thing' (dike, coastal landscape, the consequence of climate change …) which gives way to new conflicts and new assemblies. In such an approach, landscape is a form of practice; the practice of producing and securing the "animated space" we live in in the long term. The case study contrasts the authoritative discourse about "nature" or "climate change", as stated by the local Natural Park, with the actual practice of compromise in extended local networks penetrated by constant tension and conflicts. Krauss analyzes the long history of a constructed landscape (polder) and constructed nature (natural park), with the thesis that wind energy stands in the long tradition of technological intervention such as land reclamation, draining of wetlands, dike construction and the many agricultural innovations of the recent centuries. He portrays a landscape in perpetual motion, with the very idea that the only possibility of keeping it stable and inhabitable is through constant change. Regional and local networks, he shows, are oriented towards tension and conflicts, both internally and with the state. The story illustrates how energy and climate change, when they are conceived and approached as practises at specific places, allow us to engage in realistic politics. In other words, a coastal landscape, when approached as a practice, is a situated point of view which brings climate and energy policy into existence.

Alain Nadaï & Olivier Labussière analyse the development of wind power projects and planning in Aude in South France. Their analysis focuses on the role of birds and bird-watching organizations. Relying on Actor Network approach, the authors follow the practice of a bird protection organization in wind power planning and project making. They develop a topological approach to examine how the bird-watching organization observes and represents bird relation to the site and the wind turbines. They show how wind power enticed bird-watching organizations to develop new bird-watching methods, contributing to a siting of wind turbines that allows wind to be shared between developers and birds. In so doing, the authors trace the emergence of a topographical representation of wind power landscape. The case exemplifies a form of "social recomposition" linked to energy, by which birds become endowed with a renewed and more adaptative presence than (simply) that of protected species. The "conditional compatibility" between birds and wind power to which bird-watching organizations agree in the end, is a pathway of realistic politics. The case also points to an instance of 'positive planning' and makes explicit, through project making, a dimension of the underlying narrative of wind power landscapes. It shows how wind, by becoming "power", empowers birds and bird-watching organizations, making a wind power landscape into a social and political landscape: social as it embodies a way of sharing energy (i.e. wind) with birds; political as it embodies a way of balancing our energy needs with our will to preserve patrimonial values.

Marina Frolova analyses the institutional emergence of river landscapes in Spain in relation to the evolution of water policy as an energy policy (hydropower). She does so through discourse and empirical analysis. Her paper describes the progressive shift from the Spanish "hydropower paradigm" to a more open and diversified approach to energy policy. She points at the role of decentralization and the social critique in this process. She shows how this process was accompanied by a shift in landscape representations, from a unique landscape of energy - hydropower landscape as tamed water - to more diversified landscapes of energies (river landscapes for recreation, for water consumption). Her paper points at the political and institutional dimension of landscape, as river landscapes are shown to be a way or medium for Spanish autonomous regions to affirm regional identity and claim power over water and energy policies that were traditionally the preserve of the national government. Her analysis is somewhat reminiscent of Kenneth Olwig's landscape and the body politic (Olwig, 2002) in which landscape was analysed as a stage and media for the political power to set the Nation State. In the case described by Frolova, a river landscape emerges as a stage and medium for countering the central political power, a game that is being played over energy policy.

Landscapes of energies: a tentative agenda

Landscapes of energies are clearly on the political, social and scientific agenda. The papers gathered here give a foretaste and highlight the richness of the theme. Beyond the issues that are tackled here, a number of other issues relating to the current energy turn in Europe and its relation to landscape are ahead of us and should be considered. These include[7]:

7 List of issues that came out of the ESF workshop organized in Nogent-sur-Marne (Paris) in June 2007.

- *What sorts of energy future do we want / could we build (as individuals, communities, at various levels of governance) provided that the past casts shadows on our future options, which are written into existing landscapes and energy infrastructures?*

  Interdependencies between energies and landscapes such as the impact of climate change and oil price on productive agriculture and tourism, or the impact of visual changes (e.g. energy infrastructures, wind turbines, pylons …) should be approached.

- *What is or might be the impact of the rise of renewable energies on "Power" and the way in which this might translate in our landscapes?*

  Power should be approached broadly, be it with regards to the supply of mechanical or electric power which modern society depends on, or with regards to the institutional /political but also economic power which different groups of actors, or different regions, may gain or loose in the process.

- *What are the types of governances, regulatory or planning regimes that are / should be developed in order to deal with the ineluctable changes induced in the European landscapes by the energy transition?*

  A set of issues should be addressed, such as: the scaling between policy framing and the way in which people experience, receive and perceive the emergence of new energies at the local level / in the local landscapes; the ways in which decisions are / should be taken; the way in which stakeholders position themselves in this debate / these processes; the ways in which landscapes are taken account of in energy policies and *vice versa* / the articulation between these issues and the implementation of the European Landscape Convention.

- *What are the types of aesthetics and representations that are / should be developed order to deal with these same changes?*

  A related issue deals with what landscape is made for and what seems worth preserving in it (i.e. valuable but also feasible), it directly points to our conception and approach to landscape.

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